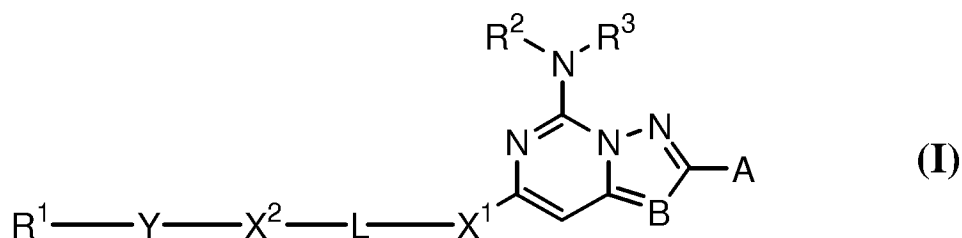


Amendments to the Claims

1. (Currently Amended) A compound of the following formula:



or a pharmaceutically acceptable salt or N-oxide thereof;

wherein

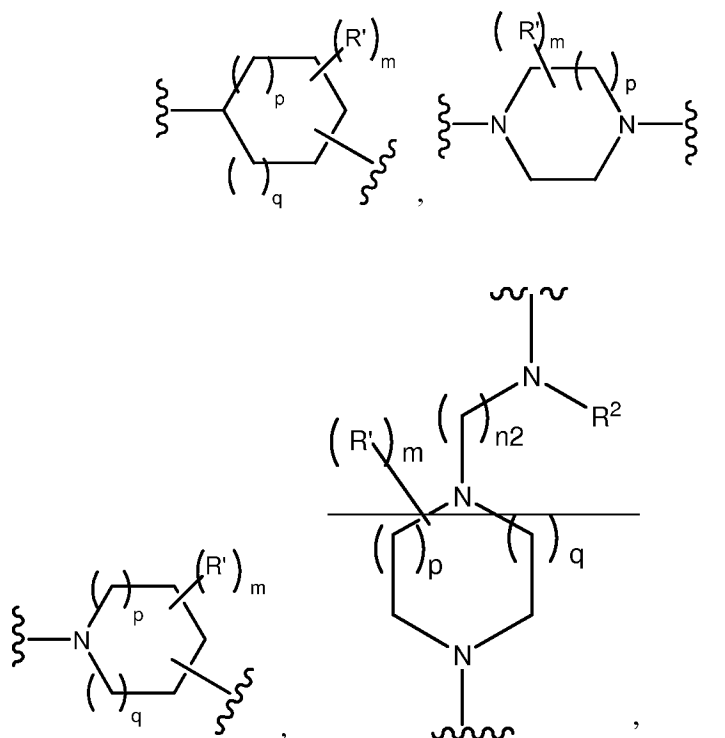
A is ~~aryl or heteroaryl~~ furanyl;

B is N or CR²;

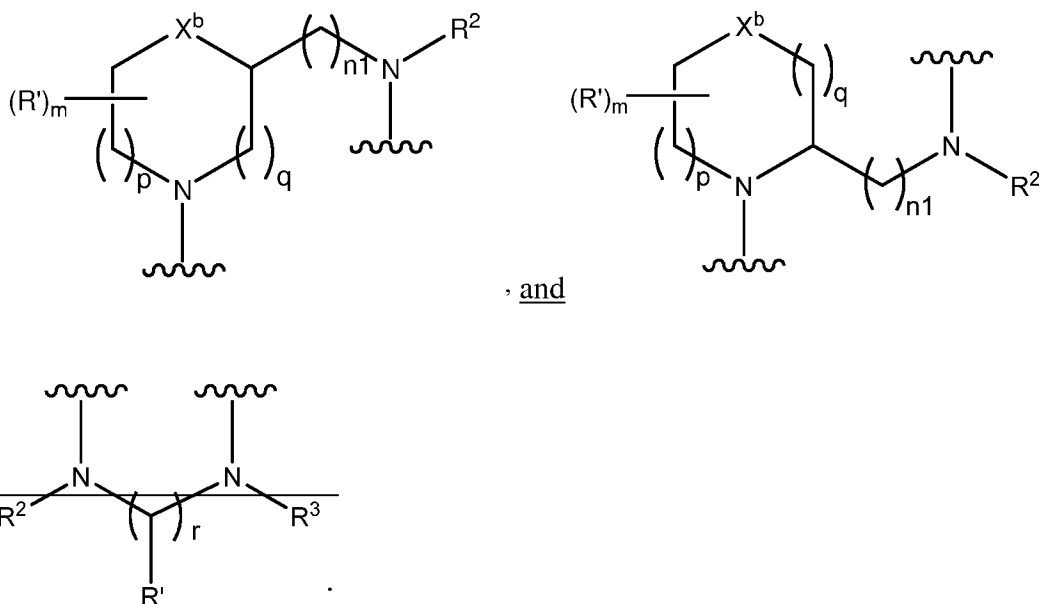
each of R² and R³ is independently hydrogen, alkyl, cycloalkyl, cycloalkenyl, aryl, or
~~aralkyl, heterocycloalkyl, heterocycloalkenyl, heteroaryl, or heteroaralkyl;~~

X¹ and X² is independently C₁₋₆ alkylene, C₂₋₆ alkenylene, C₂₋₆ alkynylene, or a bond;

L is a linker selected from the group consisting of:



Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302



wherein:

each of R' and R'' , independently, is hydrogen, alkyl, alkenyl, alkynyl, alkoxy, acyl, halo, hydroxy, amino, nitro, oxo, thio, cyano, guanidino, amidino, carboxy, sulfo, sulfoxy, mercapto, alkylsulfanyl, alkylsulfinyl, alkylsulfonyl, aminocarbonyl, alkylcarbonylamino, alkylsulfonylamino, alkoxy, carbonyl, alkylcarbonyloxy, sulfamoyl, sulfamide, carbamoyl, cycloalkyl, cycloalkyloxy, cycloalkylsulfanyl, ~~heterocycloalkyl, heterocycloalkyloxy, heterocycloalkylsulfanyl~~, aryl, aryloxy, arylsulfanyl, or aroyl, ~~heteroaryl, heteroaryloxy, heteroarylsulfanyl~~, or heteroaroyl; provided that two adjacent R' groups can join together to form a 4- to 8-membered optionally substituted cyclic moiety;

X^a is $-C(R^2)(R^3)-$, $-S-$, $-SO-$, or $-SO_2-$;

X^b is $-C(R^2)(R^3)-$, $-NR^2-$, $-O-$, $-S-$, $-SO-$, or $-SO_2-$;

each of p , q , m , and $m1$, is independently 0-3;

r is 1 or 2;

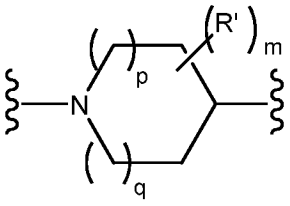
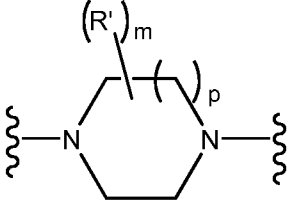
$n1$ is 0-6; and

$n2$ is 2-6;

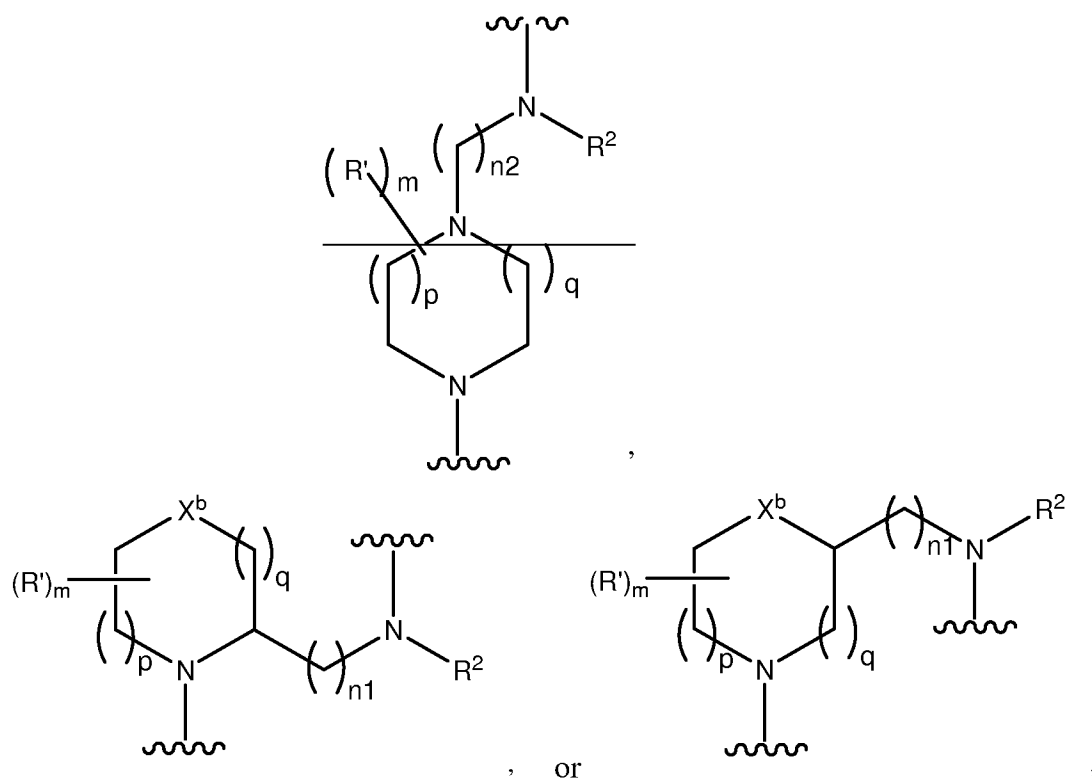
Y is $-C(R^2)(R^3)-$, $-O-$, $-S-$, $-SO-$, $-SO_2-$, $-CO-$, $-CO_2-$, or a bond; and

Applicant(s): Chi Vu et al.
 U.S.S.N.: 10/552,302

R^1 is alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, aralkyl, pyridinyl, isoxazolyl, furanyl or pyrazolyl ~~heterocyclyl, heteroaryl or heterocyclylalkyl~~;
 provided that

(1) when L is  or , then X^1 is C_{1-6} alkylene, C_{2-6} alkenylene, or C_{2-6} alkynylene;

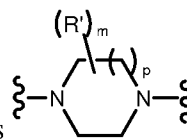
(2) when L is




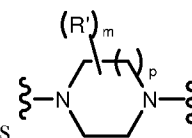
then R^1 is aryl, pyridinyl, furanyl, isoxazolyl, or pyrazolyl ~~or heteroaryl~~.


2. (Withdrawn) The compound of claim 1, wherein X^1 is C_{2-6} alkynylene.

U.S.S.N.: 10/552,302

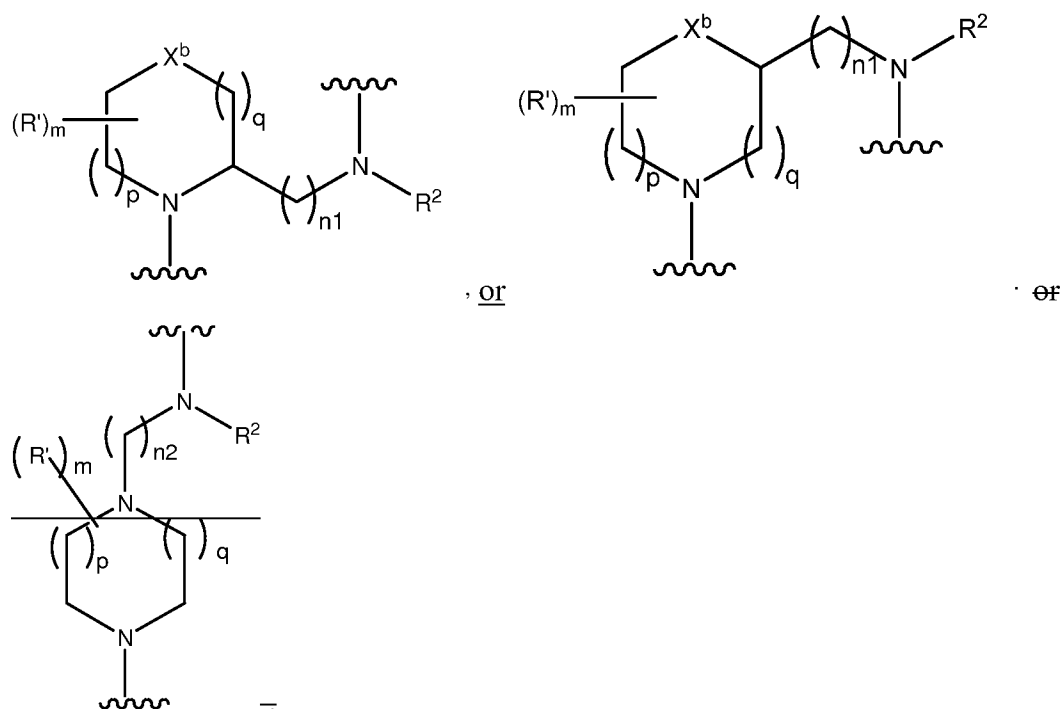


3. (Withdrawn) The compound of claim 2, wherein L is  or a bond.
4. (Withdrawn) The compound of claim 2, wherein X² is C₁₋₄ alkylene or a bond.
5. (Withdrawn) The compound of claim 2, wherein Y is a bond.
6. (Withdrawn) The compound of claim 2, wherein each of R² and R³ is independently hydrogen or alkyl.
7. (Withdrawn, Currently Amended) The compound of claim 2, wherein R¹ is alkyl, cycloalkyl, aryl, pyridinyl, isoxazolyl, pyrazolyl or furanyl, ~~heterocycloalkyl, or heteroaryl.~~
8. (Withdrawn) The compound of claim 7, wherein R¹ is optionally substituted with alkyl, halo, hydroxy, or phenyl.



9. (Withdrawn, Currently Amended) The compound of claim 2, wherein L is ; X² is C₁₋₄ alkylene or a bond; Y is a bond; each of R² and R³ is independently hydrogen or alkyl; R¹ is alkyl, cycloalkyl, aryl, pyridinyl, isoxazolyl, pyrazolyl or furanyl ~~heterocycloalkyl, or heteroaryl~~, each of which being optionally substituted with alkyl, halo, hydroxy, or phenyl; A is ~~heteroaryl~~; and B is N.

Applicant(s): Chi Vu et al.
 U.S.S.N.: 10/552,302

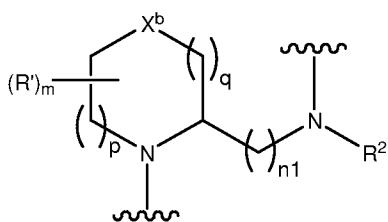


11. (Withdrawn) The compound of claim 10, wherein X^b is $-C(R^2)(R^3)-$ or $-NR^2-$.
12. (Withdrawn) The compound of claim 11, wherein X^b is $-C(R^2)(R^3)-$.
13. (Withdrawn) The compound of claim 12, wherein p is 0-1 and q is 1.
14. (Withdrawn) The compound of claim 13, wherein $n1$ is 1-4 and $n2$ is 2-4.
15. (Withdrawn) The compound of claim 14, wherein X^2 is C_{1-6} alkylene or a bond.
16. (Withdrawn) The compound of claim 14, wherein X^2 is C_{1-6} alkylene or a bond.
17. (Withdrawn) The compound of claim 14, wherein Y is $-SO_2-$, $-CO-$, $-CO_2-$, or a bond.
18. (Withdrawn) The compound of claim 14, wherein each of R^2 and R^3 is independently hydrogen or alkyl.

19. (Withdrawn, Currently Amended) The compound of claim 14, wherein R^1 is aryl, pyridinyl, isoxazolyl, pyrazolyl or furanyl ~~or heteroaryl~~, each of which being optionally substituted with alkyl, halo, hydroxy, or phenyl.

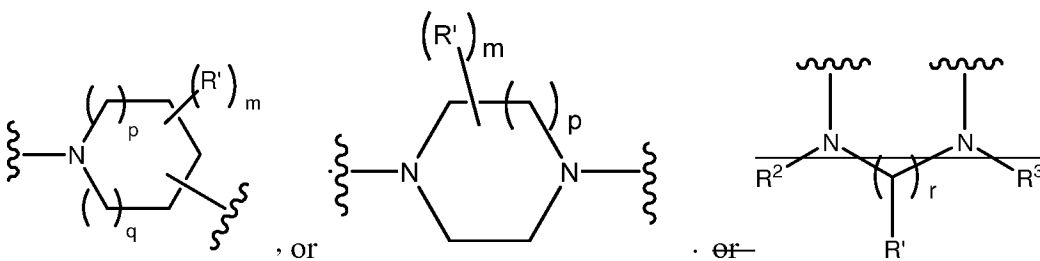
20. (Withdrawn, Currently Amended) The compound of claim 14, wherein each of X^1 and X^2 is independently C_{1-6} alkylene or a bond; Y is $-SO_2-$, $-CO-$, $-CO_2-$, or a bond; each of R^2 and R^3 is independently hydrogen or alkyl; and R^1 is aryl, pyridinyl, isoxazolyl, pyrazolyl or furanyl, ~~or heteroaryl~~, each of which being optionally substituted with alkyl, halo, hydroxy, or phenyl.

21. (Withdrawn, Currently Amended) The compound of claim 14, wherein L is



; X^1 is a bond; X^2 is C_{1-4} alkylene; Y is a bond; each of R^2 and R^3 is independently hydrogen or alkyl; R^1 is aryl, pyridinyl, isoxazolyl, pyrazolyl or furanyl ~~or heteroaryl~~, each of which being optionally substituted with alkyl, halo, hydroxy, or phenyl; A is ~~heteroaryl~~; and B is N.

22. (Withdrawn, Currently Amended) The compound of claim 1, wherein L is



23. (Withdrawn) The compound of claim 22, wherein X^1 is C_{1-6} alkylene, C_{2-6} alkynylene, or a bond.

Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302

24. (Withdrawn) The compound of claim 22, wherein X^2 is C_{1-6} alkylene or a bond.
25. (Withdrawn) The compound of claim 22, wherein Y is $-SO_2-$, $-CO-$, $-CO_2-$, or a bond.
26. (Withdrawn) The compound of claim 22, wherein each of R^2 and R^3 is independently hydrogen or alkyl.
27. (Withdrawn, Currently Amended) The compound of claim 22, wherein R^1 is alkyl, cycloalkyl, aryl, pyridinyl, isoxazolyl, pyrazolyl or furanyl, ~~heterocycloalkyl, or heteroaryl~~.
28. (Withdrawn) The compound of claim 27, wherein R^1 is optionally substituted with alkyl, halo, hydroxy, or phenyl.
29. (Withdrawn, Currently Amended) The compound of claim 22, wherein X^1 is C_{1-6} alkylene, C_{2-6} alkynylene, or a bond; X^2 is C_{1-6} alkylene or a bond; Y is $-SO_2-$, $-CO-$, $-CO_2-$, or a bond; each of R^2 and R^3 is independently hydrogen or alkyl; R^1 is alkyl, cycloalkyl, aryl, pyridinyl, isoxazolyl, pyrazolyl or furanyl, ~~heterocycloalkyl, or heteroaryl~~, each of which being optionally substituted with alkyl, halo, hydroxy, or phenyl; ~~A is heteroaryl~~; and B is N.
30. (Withdrawn, Currently Amended) The compound of claim 1, said compound being
2-furan-2-yl- N^7 -[1-(5-methyl-isoxazol-3-ylmethyl)-pyrrolidin-2-ylmethyl]-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
2-furan-2-yl- N^7 -methyl- N^7 -[1-(5-methyl-isoxazol-3-ylmethyl)-pyrrolidin-2-ylmethyl]-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2-chloro-6-fluoro-benzyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;
2-furan-2-yl- N^7 -(1-pyridin-4-ylmethyl-pyrrolidin-2-ylmethyl)-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;

Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302

N^7 -[1-(2,6-dichloro-pyridin-4-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2-chloro-pyridin-4-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2,3-difluoro-benzyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
2-furan-2-yl- N^7 -methyl- N^7 -[1-(2,3,6-trifluoro-benzyl)-piperidin-2-ylmethyl]-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2,4-difluoro-benzyl)-piperidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2,6-difluoro-benzyl)-piperidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2-fluoro-benzyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(5-chloro-furan-2-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 ~~N^7 -(1-benzofuran-2-ylmethyl-pyrrolidin-2-ylmethyl)-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;~~
 N^7 -[1-(5-chloro-1-methyl-3-trifluoromethyl-1H-pyrazol-4-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2,3-difluoro-benzyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
2-furan-2-yl- N^7 -methyl- N^7 -(1-pyridin-2-ylmethyl-pyrrolidin-2-ylmethyl)-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
2-furan-2-yl- N^7 -methyl- N^7 -(1-pyridin-3-ylmethyl-pyrrolidin-2-ylmethyl)-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
2-furan-2-yl- N^7 -methyl- N^7 -(1-pyridin-4-ylmethyl-pyrrolidin-2-ylmethyl)-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(6-chloro-pyridin-3-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;

Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302

2-furan-2-yl-N⁷-methyl-N⁷-[1-(2,3,5,6-tetrafluoro-benzyl)-pyrrolidin-2-ylmethyl]-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
1-(5-amino-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-7-ylethynyl)-cyclopentanol;
1-(5-amino-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-7-ylethynyl)-cyclohexanol;
7-(3-cyclohexyl-prop-1-ynyl)-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-5-ylamine; and
7-{3-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-prop-1-ynyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidin-5-ylamine;
~~7-{3-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-propyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidin-5-ylamine;~~
~~N⁷-{2-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;~~
~~2-furan-2-yl-N⁷-{2-[4-(2,4,6-trifluoro-phenyl)-piperazin-1-yl]-ethyl}-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;~~
~~N⁷-{2-[4-(2-fluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;~~
~~N⁷-{2-[4-(2,5-difluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;~~
~~2-furan-2-yl-N⁷-methyl-N⁷-{2-(4-phenyl-piperazin-1-yl)-ethyl}-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;~~
~~N⁷-{2-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl-N⁷-methyl-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine; and~~
~~2-furan-2-yl-N⁷-methyl-N⁷-{2-[4-(2,4,6-trifluoro-phenyl)-piperazin-1-yl]-ethyl}-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine.~~

31. (Withdrawn, Currently Amended) The compound of claim 1, said compound being
2-furan-2-yl-N⁷-[1-(5-methyl-isoxazol-3-ylmethyl)-pyrrolidin-2-ylmethyl]-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
2-furan-2-yl-N⁷-methyl-N⁷-[1-(5-methyl-isoxazol-3-ylmethyl)-pyrrolidin-2-ylmethyl]-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;

Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302

N^7 -[1-(2-chloro-6-fluoro-benzyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(2,6-dichloro-pyridin-4-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(5-chloro-furan-2-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -(1-benzofuran-2-ylmethyl-pyrrolidin-2-ylmethyl)-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
 N^7 -[1-(6-chloro-pyridin-3-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
2-furan-2-yl- N^7 -methyl- N^7 -[1-(2,3,5,6-tetrafluoro-benzyl)-pyrrolidin-2-ylmethyl]-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
1-(5-amino-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-7-ylethynyl)-cyclopentanol;
1-(5-amino-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-7-ylethynyl)-cyclohexanol;
7-(3-cyclohexyl-prop-1-ynyl)-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-5-ylamine; and
7-{3-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-prop-1-ynyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-5-ylamine;
 ~~N^7 -{2-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;~~
~~2-furan-2-yl- N^7 -{2-[4-(2,4,6-trifluoro-phenyl)-piperazin-1-yl]-ethyl}-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;~~
 ~~N^7 -{2-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl- N^7 -methyl-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine; and~~
~~2-furan-2-yl- N^7 -methyl- N^7 -{2-[4-(2,4,6-trifluoro-phenyl)-piperazin-1-yl]-ethyl}-[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine.~~

32. (Withdrawn, Currently Amended) The compound of claim 1, said compound being
2-furan-2-yl- N^7 -[1-(5-methyl-isoxazol-3-ylmethyl)-pyrrolidin-2-ylmethyl]-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;

Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302

2-furan-2-yl-N⁷-methyl-N⁷-[1-(5-methyl-isoxazol-3-ylmethyl)-pyrrolidin-2-ylmethyl]-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
N⁷-[1-(2-chloro-pyridin-4-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine;
N⁷-[1-(5-chloro-furan-2-ylmethyl)-pyrrolidin-2-ylmethyl]-2-furan-2-yl-N⁷-methyl-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
N⁷-(1-benzofuran-2-ylmethyl-pyrrolidin-2-ylmethyl)-2-furan-2-yl-N⁷-methyl-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine;
7-(3-cyclohexyl-prop-1-ynyl)-2-furan-2-yl-[1,2,4]triazolo[1,5-c]pyrimidin-5-ylamine; and
7-{3-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-prop-1-ynyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidin-5-ylamine;
~~N⁷-{2-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl-[1,2,4]triazolo[1,5-
c]pyrimidine-5,7-diamine; and~~
~~N⁷-{2-[4-(2,4-difluoro-phenyl)-piperazin-1-yl]-ethyl}-2-furan-2-yl-N⁷-methyl-
[1,2,4]triazolo[1,5-c]pyrimidine-5,7-diamine.~~

33. (Withdrawn) A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable carrier.
34. (Withdrawn) A pharmaceutical composition comprising a compound of claim 29 and a pharmaceutically acceptable carrier.
35. (Withdrawn) A method of modulating the A_{2a} adenosine receptor signaling pathways in a subject, the method comprising administering to said subject with an effective amount of a compound of claim 1.
36. (Withdrawn) A method of modulating the A_{2a} adenosine receptor signaling pathways in a subject, the method comprising administering to said subject with an effective amount of a compound of claim 29.

Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302

37. (Withdrawn) A method of inhibiting the A_{2a} adenosine receptor in a cell, the method comprising the step of contacting said cell with an effective amount of a compound of claim 1.
38. (Withdrawn) A method of inhibiting the A_{2a} adenosine receptor in a cell, the method comprising the step of contacting said cell with an effective amount of a compound of claim 29.
39. (Withdrawn) A method of treating or preventing a disorder or disease in a subject wherein the cause or syndrome of the disorder or disease is associated with an activation of the A_{2a} adenosine receptor, the method comprising the step of administering to said subject an effective amount of a compound of claim 1.
40. (Withdrawn) A method of treating or preventing a disorder or disease in a subject wherein the cause or syndrome of the disorder or disease is associated with an activation of the A_{2a} adenosine receptor, the method comprising the step of administering to said subject an effective amount of a compound of claim 29.
41. (Withdrawn) The method of claim 38 or 39, wherein the disorder or disease is selected from the group consisting of Parkinson's disease, progressive supranuclear palsy, multiple system atrophy, Alzheimer's disease, depression, AIDS encephalopathy, multiple sclerosis, amyotrophic lateral sclerosis, migraine, attention deficit disorder, narcolepsy, sleep apnea that results in excessive daytime sleepiness, Huntington's disease, cerebral ischemia, brain trauma, hepatic fibrosis, cirrhosis, and fatty liver.
42. (Withdrawn) The method of claim 40, wherein the disorder or disease is Parkinson's disease.
43. (Withdrawn) The method of claim 40, wherein the disorder or disease is depression.

Applicant(s): Chi Vu et al.
U.S.S.N.: 10/552,302

- 44. (Withdrawn) The method of claim 40, wherein the disorder or disease is migraine.
- 45. (Withdrawn) The method of claim 40, wherein the disorder or disease is hepatic fibrosis.
- 46. (Withdrawn) The method of claim 40, wherein the disorder or disease is Huntington's disease.